



Our PX workflow in R and visualizing the Nordic Statistics Database

Emil Westin 2022-10-27, 13:30-14:00

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 The Nordic Statistics database is a collection of comparative nordic statistics

 Initiated and funded by the Nordic Council of Ministers since the mid-1960s.

• The aim is to support the work of the Nordic governments and the Nordic region parliamentarians in creating joint solutions that benefit citizens in the Nordic countries.



 Statisticon's assignment is to maintain, update and develop the Nordic Statistics database (since 2018)

• Statisticon is an employee-owned company specialized in statistics (statisticon.se)



Introduction

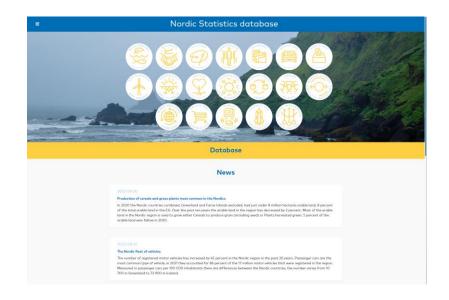
 How do we work with PX in the Nordic Statistics assignment?

Showing the new Nordic Statistics
 Database

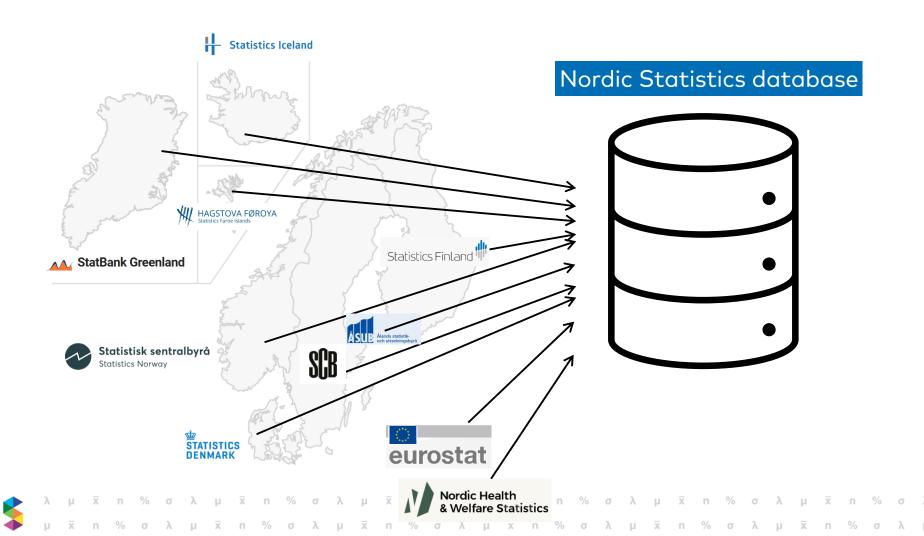


About Nordic Statistics Database

- Data from all Nordic countries
- 232 matrices in 19 topic areas
- Updates once a month
- Over 9000 unique visitors in 2022 from over 113 countries







Distribution of retrieval methods 63% 60 40 % 20 19% 10% 8% 0 -Retrieved via API:s Delivered by NSI:s Manual retrieval Under Investigation





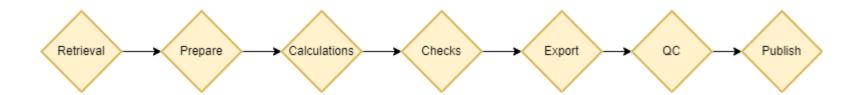








Update process





Using R

- Great tool for statistics
- Lot's of resources for easy retrieval from API:s
- Modifying px-files in R can be challenging

```
library(pxR) # reading/writing R-files
library(pxweb) # Retrieve data from pxweb-servers
library(eurostat) # Eurostat
library(dkstat) # Retrieve from Statistics Denmark
library(OECD) # Retrieve from OECD SDMX queries
library(NSDB) # internal pacakge with helper functions
```



R + PxJob

We have created wrapper functions around PxJob:

- pxjob_join(matrix_name)
- pxjob_validate_metadata(in_path)
- pxjob_update_metadata(in_path, meta_path)
- pxjob_extract_metadata(in_path)



Metadata

- Metadata is created from DB by pxjob_extract_metadata
- We edit all metadata in the generated csv file
- PX files are then updated with pxjob_update_metadata

filename	variablena	valuetext	NOTE	NOTE	VALUENO	NOTEX	INFO	SOURCE
AGRI10			In some ca	ases there a	re values f	or all subgr	oups of a c	Eurostat <
AGRI10	crops			Crops clas	sified accor	ding to Re	gulation (EC	C) No 543/2
AGRI10	time							
AGRI10	reporting o	Finland			Includes Å	land.		
AGRI10	reporting of	Åland			Data from	Åland is al	so included	in the data
AGRI10	reporting o	Iceland			Not signifi	cant: 2021	for Area (c	ultivation/h
AGRI10	reporting o	Sweden			Comment	in national	metadata:	Temporary
AGRI10	reporting o	EU			European	Union - 27	countries (1	from 2020).
AGRI10	area	Main area			The conce	pt of 'main	area' corre	esponds, in
AGRI10	area	Area (culti	vation/han	vested/prod	For cereals	s, dry pulse	s, root crop	s, industria

metadata.csv



The csv is later modified in a script to automatically update SOURCE-information with valid clickable links

CHIL02: Fertility rates by reporting country, age and time

Choose variables

								^	About table
								~	Contact
PXMatrixN -	Country	r url 🔻 ur	rl_status 🕶 S	Source Table 💌	Last observation	Last observation published	Next estimated update 🔻	^	Latest update
CHIL02	Denmark	https://www.statistikbanken.dk/F Su	uccess: (200	FOD407	2021	2022-03-07	2023-03-07		
CHIL02	Faroe Islands	https://statbank.hagstova.fo/pxw St	uccess: (2001	IB02030_FD_FEF	2021	2022-05-17	2023-05-17		9/16/2022
CHIL02	Greenland				2021	2022-06-30	2023-06-30		
CHIL02	Finland	https://statfin.stat.fi/PXWeb/pxweSt	uccess: (200		2021	2022-06-30	2023-06-30		Unit
CHIL02	Finland	https://statfin.stat.fi/PXWeb/pxwiSt	uccess: (200	12du	2021	2022-06-30	2023-06-30	~	One
CHIL02	Åland				2020	2021-09-15	2022-09-15		Next update
CHIL02	Iceland	https://px.hagstofa.is/pxen/pxwe St			2021	2022-05-17	2023-05-17		Next update
CHIL02	Iceland	https://px.hagstofa.is/pxen/pxwe Su			2021	2022-05-17	2023-05-17		3/7/2023
CHIL02	Norway	https://www.ssb.no/statbank/tab <mark>Su</mark>			2021	2022-04-13	2023-04-13		3///2023
CHIL02	Norway	https://www.ssb.no/statbank/tab <mark>Su</mark>			2021	2022-04-13	2023-04-13		
CHIL02	Sweden	https://view.officeapps.live.com/cSu				2022-05-17	2023-05-17	~	Creation date
CHIL02	EU	https://appsso.eurostat.ec.europaSu	uccess: (200	demo_frate	2020	2022-05-17	2023-05-17		
								^	Source
									Statistics Denmark [FOD407].
									Statistics Faroe Islands [IB02030_FD_FERTKV5].
									Delivered by National Statistics Institutes (Greenland, Åland).
									Statistics Finland [12ds], [12du].
									Statistics Iceland [MAN05201], [MAN05202].
									Statistics Norway [8555], [4232].
									Statistics Sweden [Åldersdifferentierade fruktsamhetstal, 2011-2021].
									Eurostat [demo frate] (EU).
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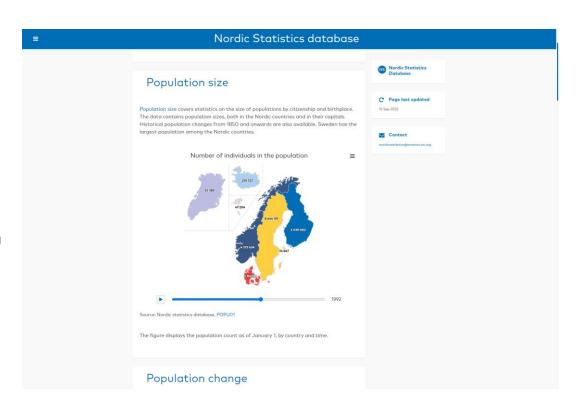
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New Nordic Statistics Database

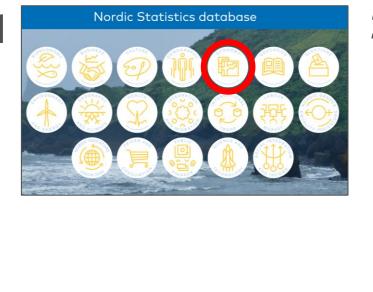
https://www.nordicstatistics.org/

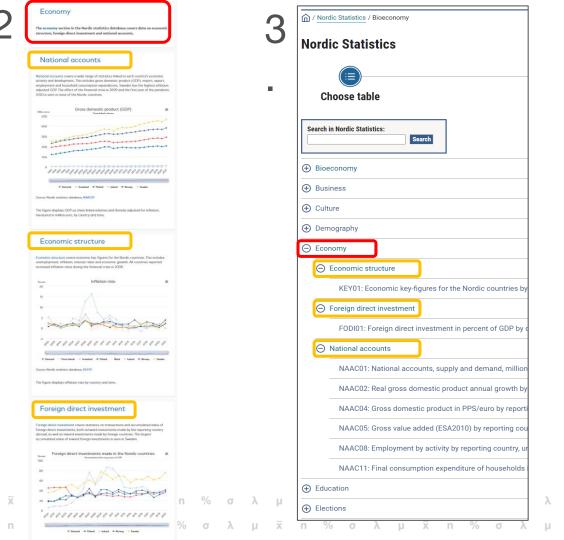


- Inspired by Statistics Faroe Islands
- 'Landing pages' with interactive Highchart graphs
- Short overview and introduction to each sub areas











CHIL06: Parents age at birth of first child by reporting country, parent and time

Result

→ About table	Pivot manual	C Pivot clockwise	Pivot o	counterclockwise	×≡		⁷ Fullscreen
Show result as			2017	2018	2019	2020	2021
V Edit and Calculate	Denmark	Mother	29.2	29.3	29.4	29.6	29.8
V Euit allu Galculate	Finland	Mother	29.2	29.4	29.6	29.7	30.0
Save result as	Åland	Mother	28.8	28.9	29.8	29.2	29.3
•	Iceland	Mother	27.8	28.2	28.6	28.6	28.6
Save your query	Norway	Mother	29.3	29.5	29.8	29.9	30.1
 Hide empty rows 	Sweden	Mother	29.3	29.4	29.6	29.9	30.1

API query for this table

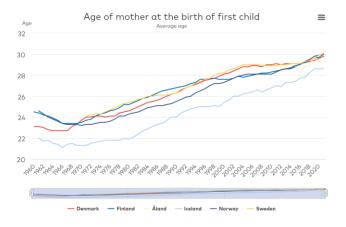
POST the following JSON query to the URL below to access this table from your application.

https://pxweb.nordicstatistics.org:443/api/v1/en/Nordic Statistics/Demography/Family structure/

JSON query:

Footnotes





Source: Nordic statistics database, CHILO6



nordicstatistics.org

Demo





